REMARKS

Claims 1-34 are pending, of which Claims 1, 13 and 25 are independent. Claims 1, 13 and 25 have been amended to more clearly set out the patentable subject matter. Claim 8 has been amended to correct an inadvertent typographical error. Claims 1-34 have been rejected under 35 U.S.C. § 101 as being directed to nonstatutory subject matter. Claims 1-34 further have been rejected under 35 U.S.C. §102(b) as being anticipated by Network Pump (NP) Security Target by Andrew P. Moore (hereinafter, "Moore").

Rejections Under 35 U.S.C. §101

Claims 1-34 were rejected under 35 U.S.C. §101 as being directed to nonstatutory subject matter. The Examiner asserts that they are directed to functional descriptive material because the specification describes embodiments, among others, as being implemented in software. Applicants respectfully disagree. "Only when the claimed invention taken as a whole is directed to a mere program listing, i.e., to only its description or expression, is it descriptive material *per se* and hence non-statutory." MPEP § 2106.01 I.

In this case, the claims are limited to methods and systems for processing data, acknowledgements and a trigger signal which are otherwise patentable processes and machines irrespective of the fact that a computer program may be included. However, in order to expedite prosecution, Claims 1, 13 and 25 have been amended to recite that the respective method and systems are device implemented. Support can be found, for example, at page 2, lines 21-22 and page 4, lines 26-27. Further, Claims 2-12, 14-24 and 26-34 are dependent on Claims 1, 13 and 25, respectively, and therefore contain all the limitations of the base claims. For these reasons, the Examiner's rejection is overcome and reconsideration is respectfully requested.

Rejections Under 35 U.S.C. §102

All claims were rejected as being anticipated by Moore. That rejection is respectfully traversed and reconsideration is requested. Without limitation to the claims, the following is a discussion of embodiments disclosed in the present Application that relate to communicating

information data from a low security assurance source ("low end source") to a high security assurance destination ("high end destination"). To facilitate end-to-end communication for information data transfers from low to high, a network isolator forwards information data from a low end source to a high end destination. To prevent information transfers from the high end destination to the low end source, acknowledgments from the high end destination are not directly returned back to the originating source. Rather, receipt of an acknowledgment from a high end destination (i.e., high end acknowledgment) triggers the generation of a new acknowledgment (i.e., low end acknowledgment) which is then transmitted back to the originating low end source to acknowledge receipt of the information data. Such embodiments allow information data transfers from low to high using acknowledgment-based communication protocols, while preventing information data transfers from high to low that might accompany an acknowledgement.

By way of example, internally, the low and high end network interfaces are coupled to each other via a link to provide a one-way data path for transferring information data from the low end network to the high end network. However, no information relating to the high side is transferred in the reverse direction from high to low of the link. In that direction, the high end network interface is isolated from the low end network interface by an acknowledgment trigger coupled to an acknowledgment generator. The high end network interface forwards high end acknowledgments over the link to the acknowledgment trigger where further transmission of high end acknowledgments are terminated. To initiate the generation of the low end acknowledgment, the acknowledgment trigger transmits a trigger signal over the link to the acknowledgment generator. The acknowledgment generator, in turn, generates the low end acknowledgment. The acknowledgment generator than forwards the low end acknowledgment to the low end network interface over the link for transmission to the source over the low end network.

Moore relates to a Network Pump (NP) that supports communication connections from a Low LAN Interface to a High LAN Interface and requires the use of a separate application layer protocol, called the Pump Protocol. Moore's NP also requires application-layer components called wrappers that require modification of all attached information systems that wish to source or sink traffic through the NP. Each application on the Low LAN that uses the NP

communicates via an interface to a Low Wrapper, and, similarly, each application on the High LAN that receives information from the NP communicates via an interface to a High Wrapper. Each wrapper is divided into an application-dependent part, which can be tailored to support the particular set of objects, or calls the application expects to see, and a Pump-dependent part, which is a library of routines that implement the Pump Protocol, with different wrappers supporting different applications.

However, Moore neither generates an acknowledgement trigger signal in response to the high end acknowledgement nor generates a low end acknowledgement in response to the acknowledgement trigger signal. Rather, the NP of Moore responds to an acknowledgment received from the High Wrapper by appropriately updating the value of the moving average for the connection. The NP then generates an acknowledgement delay based on the moving average for the connection and transmits the appropriate acknowledgment to the Low Wrapper. Because the same acknowledgement is passed from the High Wrapper to the Low Wrapper, any information included in the acknowledgement would be passed on to the Low Wrapper, thereby breaching security in a secure system.

Example embodiments of the present invention, however, receive high end acknowledgments from the high end network interface at the acknowledgment trigger, where further transmission of high end acknowledgments is terminated. The acknowledgment trigger then transmits a trigger signal over the link to the acknowledgment generator which, in turn, generates a new low end acknowledgment and forwards it to the low end network interface over the link for transmission to the source over the low end network. Because the acknowledgement generator responds only to the trigger, no information can be transferred through.

With regard to the Examiner's rejection of Claims 1, 13, 25 and 26-34, Moore makes no mention of generating an acknowledgment trigger signal in response to the high end acknowledgment or generating a low end acknowledgment in response to an acknowledgment trigger signal. Rather, Moore generates an acknowledgment delay and then transmits the appropriate acknowledgment to the Low Wrapper. Moore does not generate a low end acknowledgment in response to an acknowledgment trigger signal. For these reasons, the Examiner's rejection of Claims 1, 13, 25 and 26-34 is overcome and reconsideration is respectfully requested.

With regard to the Examiner's rejection of Claims 2 and 14, Moore makes no mention of determining whether to generate an acknowledgment trigger signal. Moore makes no use of acknowledgment trigger signals and rather relies on connection-oriented services. Further, Claims 2 and 14 are dependent on Claims 1 and 13, respectively, and therefore contain all the limitations of the base claims. For these reasons, the Examiner's rejection of Claims 2 and 14 is overcome and reconsideration is respectfully requested.

With regard to the Examiner's rejection of Claims 3-4 and 15-16, Moore makes no mention of determining whether the high end acknowledgment includes information data and generating no acknowledgment trigger signal if information data is included in the high end acknowledgment. Further, Claims 3-4 and 15-16 are dependent on Claims 1 and 13, respectively, and therefore contain all the limitations of the base claims. For these reasons, the Examiner's rejection of Claims 3-4 and 15-16 is overcome and reconsideration is respectfully requested.

With regard to the Examiner's rejection of Claims 5-12 and 17-24, these claims are dependent on Claims 1 and 13, respectively, and therefore contain all the limitations of the base claims. For these reasons, the Examiner's rejection of Claims 6-12 and 18-24 is overcome and reconsideration is respectfully requested.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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